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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/930,194

08/16/2001

Hideki Yamamoto

107314-00025

9215

1333

7590

06/28/2004

PATENT LEGAL STAFF
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EXAMINER

SHENG, TOM V

ART UNIT

PAPER NUMBER

2673

12

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/930,194

Applicant(s)

YAMAMOTO, HIDEKI

Examiner

Tom V Sheng

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 5 and 13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaburagi et al. (US 6,160,532) in view of Takayama (US 6,317,157 B1).

As for claim 13, Kaburagi teaches a liquid crystal projector (liquid crystal display device appropriate for a projector; figure 1) comprising a first digital gamma correction circuit (secondary gamma correction circuit 32) to make input signal level-to-illuminance characteristics linear (figures 5 and 6; column 12, lines 16-25), wherein

a second digital gamma correction circuit for changing gamma correction characteristics (primary gamma correction circuit 24 implemented in a RAM; column 11, lines 10-33) with variable input-output characteristics (RAM data can be changed either in the factory or by the user; figure 2, column 11, lines 42-52) is provided in a stage preceding the first digital gamma correction circuit (primary gcc 24 precedes secondary gcc 32 as shown in figure 1), in which the input-output characteristics of the second digital gamma correction circuit are varied according to a characteristic changing instruction from a user (accomplished by the user operating a control unit).

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Kaburagi does not teach that the input-output characteristics of the second digital gamma correction circuit are indicated by an exponential equation whose exponent is variable.

Takayama also teaches two stages gamma corrections similar to Kaburagi. In the background of the invention, Takayama specifically teaches gamma correction or inverse gamma correction in the form of an exponential equation (with γ or $1/\gamma$ as the exponent; see column 2, line 46 to column 3, line 39). One of ordinary skill in the art would know that a change in gamma correction corresponds to a change in the value of the gamma.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to implement the input-output characteristics of the primary gamma correction circuit 24 of Kaburagi as an exponential equation as taught by Takayama with the changeable feature of the RAM thus effectively making the exponent (γ) variable, because a change in gamma correction characteristics naturally corresponds to a change in the gamma the exponent.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaburagi and Takayama as applied to claim 13 above, and further in view of Admitted Art.

Claim 5 is regarding a liquid crystal projector similar to claim 13, except that the succeeding gamma correction circuit is an analog gamma correction circuit instead of a digital gamma correction circuit.

Admitted Art (figures 1 and 7) teaches a conventional liquid crystal projector, which can comprise either an analog gamma correction circuit or a digital gamma correction circuit. One of ordinary skill in the art would know that there is no patentable distinction between the two implementations, as both are commonly used.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use an analog secondary gamma correction circuit, as a matter of engineering or cost preference.

Response to Arguments

4. Applicant's arguments filed on 4/27/2004 have been fully considered but they are not persuasive.

Applicants argue that the cited prior arts fails to disclose or suggest at least the limitation of "a digital gamma correction circuit for changing gamma correction characteristics ... according to a characteristics changing instruction from a user" and that the correction circuit 24 of Kaburagi is not designed to change its input/output characteristics based on characteristics changing instructions from a user, the examiner disagrees since Kaburagi teaches the primary gamma correction circuit 24 that reads on claimed preceding digital gamma correction circuit and that a user can change the RAM data (the correction circuit 24) by operating a control unit.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
June 22, 2004


KENT CHANG
PRIMARY EXAMINER